

Claims

1. Method for determining the impact of a multicomponent natural product mixture on the biological profile of a disease within a group of living systems comprising the steps of:
  - (a) determining a biological profile of the disease by comparing the biological profile of a group of living systems with symptoms of the disease with the biological profile of a reference (or healthy) group of living systems, using a multivariate analysis;
  - (b) determining the impact of a series of samples of the multicomponent mixture on the biological profile of the disease, in which samples the concentrations of one or more natural components or groups of natural components differ, using a multivariate analysis;
  - (c) determining the composition of the samples of the multicomponent mixture that have shown in step (b) a desired impact on the biological profile of the disease, using a multivariate analysis;
  - (d) identifying within the compositions as determined in step (c) the effective natural components or groups of natural components and their respective concentrations required for having the desired impact on the biological profile of the disease, using a multivariate analysis.
- 20 2. Method according to claim 1, wherein step (d) is followed by a step (e) in which a set of multicomponent natural product mixtures is prepared on the basis of the information obtained in step (d), which mixtures are expected to display the desired impact on the biological profile of the disease, whereby step (e) is followed by a step (f) wherein the impact on the biological profile of the disease is determined of the set of 25 multicomponent mixtures as prepared in step (e), using multivariate analysis.
3. Method according to claim 1 or 2, wherein from the set of multicomponent mixtures as prepared in step (e) one or more multicomponent mixtures are selected in a step (g), which selected multicomponent mixtures display a desired and improved 30 impact on the biological profile of the disease.

4. Method according to any one of claims 1-3, wherein in step (a) use is made of at least one spectrometric technique, at least one electromigration-based technique or at least one chromatographic technique to determine the profile of the disease.

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5. Method according to any one of claims 1-4, wherein in step (b) use is made of at least one spectrometric technique, at least one electromigration-based technique or at least one chromatographic technique to determine the impact of the series of samples of the multicomponent mixture on the biological profile of the disease. samples.

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6. Method according to any one of claims 1-5, wherein in step (c) use is made of at least one spectrometric technique, at least one electromigration-based technique or at least one chromatographic technique to determine the composition of the samples.

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7. Method according to any one of claims 1-6, wherein in step (d) use is made of at least one spectrometric technique, at least one electromigration-based technique or at least one chromatographic technique to identify the effective components and their respective concentrations required for having an impact on the biological profile of the disease.

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8. Method according to any one of claims 1-7, wherein in step (f) use is made of at least one spectrometric technique, at least one electromigration-based technique or at least one chromatographic technique to identify the effective components and their respective concentrations required for having an impact on the biological profile of the disease.

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9. Method according to any one of claims 2-8, wherein use is made of two or more spectrometric techniques.

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10. Method according to claim 9, wherein use is made of at least a nuclear magnetic resonance technique and a mass spectrometry technique.

11. Method according to any one of claims 1-10, wherein the biological profile includes one or more metabolic, genetic and/or proteomic profiles.
12. Method according to claim 11, wherein the biological profile includes the metabolic, genetic and proteomic profiles.  
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13. Method according to any one of claims 1-12, wherein the multicomponent mixture comprises a nutraceutical product, functional food product, herbal medicinal product or (extract of) biofluid.  
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14. Method according to any one of claims 1-13, wherein in (a) the biological profiles are determined of at least one type of bodyfluid.
15. Method according to any one of claims 1-14, wherein in (a) the biological profiles are determined of at least one type of tissue.  
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16. Method according to claim 14, wherein in (a) the biological profiles are determined of at least two different types of bodyfluid.  
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17. Method according to any one of claims 1-16, wherein in (a) the biological profiles are determined using one or more of the following biomarkers; genes, transcripts, proteins, metabolites and (trace) elements.
18. Method according to any one of claims 1-17, wherein the number of samples of which the composition is determined in (c) is at least 2.  
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19. Method according to claim 18, wherein the number of samples of which the composition is determined in (c) ranges from 5-100
30. 20. Method according to any one of claims 1-19, wherein the multicomponent natural product mixture is a herbal mixture.

21. Method for preparing a natural product-based medicament wherein the effective natural components or groups of natural components as identified in step (d) as defined in any one of claims 1-20 are combined in the respective concentrations required for having a desired impact on the biological profile of the disease.

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22. Use of a multivariate mixture as prepared in step (e) as defined in any one of claims 2-20 or as selected in step (g) as defined in any one of claims 3-20 for preparing a natural product-based medicament.

10 23. Use of a multivariate mixture as prepared in step (e) as defined in any one of claims 2-20 or as selected in step (g) as defined in any one of claims 3-20 in a food application.

15 24. Medicament comprising a multicomponent mixture as prepared in step (e) as defined in any one of claims 2-20 or as selected in step (g) as defined in any one of claims 3-20.

20 25. Method according to any one of claims 1-20, wherein the concentration of at least one natural component or group of natural components of the mixture is adjusted to ensure that the at least one natural component or group of natural components of the mixture has the desired impact on the biological profile of the disease.

25 26. Use of the method according to any one of claims 1-20, for setting up breeding programs, Good Agriculture/Manufacture Practice (GAP/GMP) protocols and post-harvesting processing of natural products for use in natural product -based medicines.